I. AMENDMENTS

Please cancel claim 8 without prejudice. Please amend claim 1, and add new claims 57 to 71, as indicated below. Upon entry of the present amendment, the status of the claims will be as follows:

1. (Currently amended) A fusion protein comprising:

a) a reporter polypeptide linked to a linker polypeptide comprising a protease cleavage site;

wherein said reporter polypeptide is ~~an enzyme, or~~ a transcriptional activator; and

b) a repressor polypeptide that represses ~~the~~ transcriptional activity of the reporter polypeptide by conferring a specific localization in a cell such that the reporter polypeptide has reduced transcriptional activity, wherein said repressor polypeptide is linked to the linker polypeptide, and

wherein, upon cleavage of said linker polypeptide at said protease cleavage site, an increase in the transcriptional activity of said reporter polypeptide can be detected.

2. (Original) The fusion protein of claim 1, wherein said protease cleavage site is a caspase cleavage site.

3. (Previously presented) The fusion protein of claim 1, wherein said repressor polypeptide comprises a polypeptide sequence that directs the localization of said fusion protein outside of the nucleus of a cell.

4. (Original) The fusion protein of claim 3, wherein said repressor polypeptide is an N-terminal fragment of CD4.

5. (Original) The fusion protein of claim 3 wherein said reporter polypeptide is a transcription factor.

6. (Original) The fusion protein of claim 5, wherein said transcription factor is C-terminal Lex A-B42 transcription factor.

7. (Original) The fusion protein of claim 3, wherein said repressor polypeptide is amyloid precursor protein.

8 to 56. (Cancelled)

57. (Previously presented) The fusion protein of claim 1, wherein the reporter polypeptide is a transcription factor.

58. (Previously presented) The fusion protein of claim 1, wherein the repressor polypeptide is a transmembrane protein and the linker peptide is linked to the intracellular domain of the transmembrane protein.

59. (New) A fusion protein comprising:

a) a reporter polypeptide linked to a linker polypeptide comprising a protease cleavage site;

wherein said reporter polypeptide is an enzyme; and

b) a repressor polypeptide that represses the enzymatic activity of the reporter polypeptide by conferring a specific localization in a cell such that the reporter polypeptide has reduced enzymatic activity, wherein said repressor polypeptide is linked to the linker polypeptide, and

wherein, upon cleavage of said linker polypeptide at said protease cleavage site, an increase in the enzymatic activity of said reporter polypeptide can be detected.

60. (New) The fusion protein of claim 59, wherein said protease cleavage site is a caspase cleavage site.

61. (New) The fusion protein of claim 59, wherein said repressor polypeptide comprises a polypeptide sequence that directs the localization of said fusion protein outside of the nucleus of a cell.

62. (New) The fusion protein of claim 61, wherein said repressor polypeptide is an N-terminal fragment of CD4.

63. (New) The fusion protein of claim 61, wherein said repressor polypeptide is amyloid precursor protein.

64. (New) The fusion protein of claim 59, wherein the repressor polypeptide is a transmembrane protein and the linker peptide is linked to the intracellular domain of the transmembrane protein.

65. (New) The fusion protein of claim 59, wherein said reporter polypeptide is a kinase.

66. (New) The fusion protein of claim 59, wherein said reporter polypeptide is luciferase, β-glucuronidase, chloramphenicol acetyltransferase, or β-galactosidase.

67. (New) A fusion protein comprising:

a) a reporter polypeptide linked to a linker polypeptide comprising a protease cleavage site;

wherein said reporter polypeptide is a transcription factor; and

b) a repressor polypeptide that represses transcriptional activity of the reporter polypeptide by conferring a specific localization in a cell such that the reporter polypeptide has reduced transcriptional activity, wherein said repressor polypeptide is linked to the linker polypeptide, and

wherein, upon cleavage of said linker polypeptide at said protease cleavage site, an increase in the transcriptional activity of said reporter polypeptide can be detected.

68. (New) The fusion protein of claim 67, wherein said protease cleavage site is a caspase cleavage site.

69. (New) The fusion protein of claim 67, wherein said repressor polypeptide comprises a polypeptide sequence that directs the localization of said fusion protein outside of the nucleus of a cell.

70. (New) The fusion protein of claim 69, wherein said repressor polypeptide is an N-terminal fragment of CD4 or an amyloid precursor protein.

71. (New) The fusion protein of claim 67, wherein said transcription factor is C-terminal Lex A-B42 transcription factor.